

RESTORE THE RIVER CORRIDOR



Nuclear Energy Legacies

Cleanup of sodium systems in the 337 Building continued with removal of trace heat controls, insulation and thermocouples. Sodium system pipe-cutting plans were developed. In addition, workers met an August 20 DOE milestone to complete stabilization of the fuel transfer pit at the 309 Building, and removed two drums of radioactive mixed waste from the building. The 337 and 309 projects both are advancing the cleanup of the 300 Area, located adjacent to the Columbia River just north of the City of Richland.



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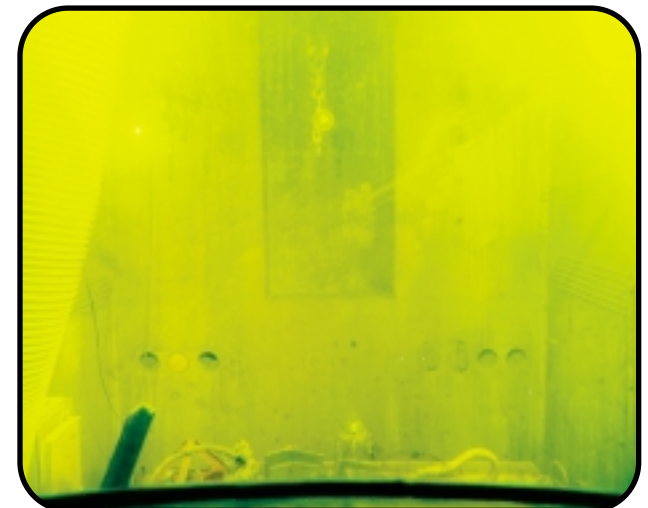
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Before and after photos of the interior of the 324 Building's B Cell are shown. The cleanout of B Cell and shipment of the mixed waste and equipment to the 200-Area burial grounds (*see Page 20*) completed the workscope to meet a key Tri-Party Agreement milestone for 300-Area cleanup. Project workers also completed tasks required by a DOE milestone for removing a vault treatment system in the Building's D Cell.

At the 327 Building, a minimal operations staff continued to make effective progress in the cleanup of several cells.

River Corridor Project



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The Accelerated Deactivation team demolished a second water tower in the 300 Area. Small amounts of uranium contamination between layers of paint on both towers precluded recycling the cut-up steel, so workers shipped about a dozen trailer loads of tower parts to central Hanford for disposal.



In another successful project for the 300 Area's accelerated "skyline reduction" initiative, Fluor Hanford subcontracted Environmental Restoration Contractor Bechtel Hanford to demolish 303-K, a former radioactive and mixed-waste storage facility.



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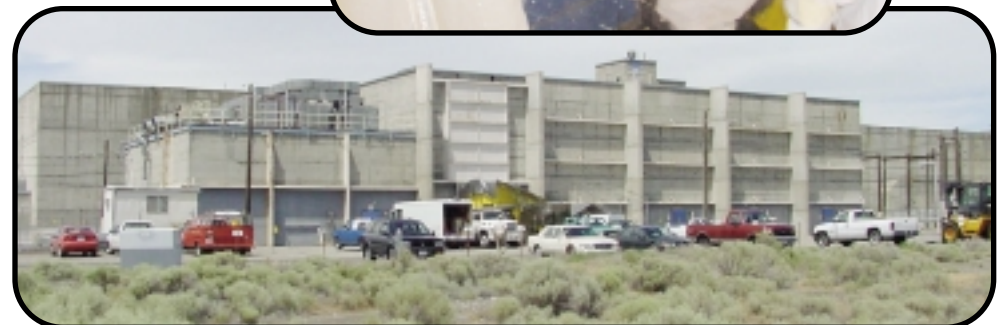
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For the first time since the 1980s, workers entered two of the process cells at the 224-T Building (bottom photo), used from 1945 to the mid-50s to concentrate plutonium solutions. At top, lead nuclear chemical operator Dale Sumsion dons a “cool suit” to help deal with high temperatures in the containment tent during warm weather. In the middle photo, with protective, anti-contamination clothing and gear on top of their cool suits, Sumsion watches carpenter Gary Harting cut the lock on a cell door. They and their co-workers completed the first phase of characterization activities to determine appropriate cleanup steps. They borrowed successful ideas and lessons learned from the earlier deactivations of B Plant and the Plutonium-Uranium Extraction (PUREX) Facility to perform the work safely.



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The first of four tall-well railcars rolls past the 300 Area on a lowboy trailer, on its way to Duratek in Memphis, Tennessee. The 150,000-pound specialty cars (two are shown at lower right) were used to transport fuel from the reactors near the Columbia River to the processing plants in the 200 Area. Instead of burying them as mixed waste, the cars are being recycled, which leaves no mixed waste. This is saving taxpayers at least \$100,000 per car. In the background is one of the water towers that has since been taken down in another river corridor cleanup effort (*see Page 7*).



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As part of the Project's task to dispose of no-longer-needed heavy equipment, Fluor Hanford released two welder trailers, an earth auger and drill, and a line-and-auger truck for potential commercial reuse.

In addition, the River Corridor team deferred disposition costs of more than \$1 million by sending uranium dioxide crystals to the Oak Ridge National Laboratory and transferring thorium to the Pacific Northwest National Laboratory. Both Labs can use the materials in research programs, avoiding disposal costs for Hanford. Transfer of this material completed all uranium disposition activities planned for fiscal 2001.

Spent Nuclear Fuel Project

The Project team exceeded the year's goal to get 116 tons of irradiated uranium out of the K-West Basin, dry it and place it in interim storage in central Hanford. The total of 27 loads shipped to date to the central plateau has successfully and safely moved more than 4 million curies of radioactivity away from the Columbia River shoreline.



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Spent Nuclear Fuel Project

Fluor Hanford nuclear chemical operators Robert Crow (left) and Raul Ramirez test new process equipment to accelerate work in the K-West Basin. Two new processing tables and additional fuel- and basket-handling equipment have been in use since August 1 and enabled workers to load and remove 12 containers of spent nuclear fuel during this quarter.



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To date, the Project has received more than 130 multi-canister overpacks (MCOs) from its offsite vendor, like this empty one being delivered to the Canister Storage Building from the Project warehouse to be fitted with an outer transport cask. In addition, the onsite Spent Nuclear Fuel Basket Project team has fabricated more than 900 baskets. Each MCO holds six or seven baskets containing a total of nearly 300 spent fuel assemblies from the K Basins.



The Spent Nuclear Fuel team successfully completed a standard startup review in preparation for transporting dried Shippingport (PA) spent nuclear fuel, now stored at T Plant, to the Canister Storage Building, shown here.



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Spent Nuclear Fuel Project

Dan Truman (left), leader of the DOE National Spent Nuclear Fuel Program audit team, reviews quality assurance records with Fluor Hanford's Ron Ruth. The Project received an excellent rating in the July 2001 audit. Rigorous quality performance is required to meet the prescriptive standards of the Office of Civilian Radioactive Waste Management because Hanford's dried spent fuel will ultimately go to a geologic repository for commercial nuclear power plant spent fuel.



Collaborative efforts between Fluor Hanford and the Pacific Northwest National Laboratory (PNNL) are expected to save at least \$1 million in maintenance costs over the remaining five-year life of the Spent Nuclear Fuel (SNF) Project. Using risk analyses to evaluate 1,535 regular preventive maintenance tasks covering more than 5,000 equipment components, PNNL researchers and SNF engineers determined that 22 percent of the tasks could be performed less frequently or eliminated with no adverse impacts to safety or schedule.

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Environmental Restoration Along the River

Workers demolish the second of two valve houses that formerly released cooling water from N Reactor into adjacent cribs and trenches. The Bechtel Hanford-led Environmental Restoration Contract team has removed 125,000 tons of radioactively and chemically contaminated soil and debris from the N Reactor area to date. Innovative work techniques have resulted in zero skin contaminations and zero lost time. Altogether, nearly 3.2 million tons of contaminated material have been removed from the reactor areas in the river corridor and safely disposed in the Environmental Restoration Disposal Facility in central Hanford.

